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States Government

Department of Energy

DUE 2-1-94  
DATE 2-15-94

# Memorandum

JAN 13 11 11 AM '94 Rocky Flats Office

ACTION *Stiger*  
DIST. *TR ENC*

BENEDETTI, R.L.	
BENJAMIN, A.	
BERMAN, H.S.	
CARNIVAL, G.J.	
COPP, R.D.	
CORDOVA, R.C.	
DAVIS, J.G.	<input checked="" type="checkbox"/>
FERRERA, D.W.	<input checked="" type="checkbox"/>
FRANZ, W.A.	
HANNI, B.J.	
HEALY, T.J.	
HEDAHL, T.G.	
HILBIG, J.G.	
HUTCHINS, N.M.	
KIRBY, W.A.	
KUESTER, A.W.	
MAHAFFEY, J.W.	
MANN, H.P.	
MARX, G.E.	
McKENNA, F.G.	<input checked="" type="checkbox"/>
MORGAN, R.V.	<input checked="" type="checkbox"/>
PIZZUTO, V.M.	
POTTER, G.L.	
SANDLIN, N.B.	
SATTERWHITE, D.G.	
SCHUBERT, A.L.	
SETLOCK, G.H.	
SULLIVAN, M.T.	
SWANSON, E.R.	
WILKINSON, R.B.	
WILSON, J.M.	

JAN 12 1994

ER:BKT:00626

Comments on the Rocky Flats Plant Industrial Area Operable Units Environmental Evaluation

Sue Stiger, Associate General Manager  
Environmental Restoration Management  
EG&G Rocky Flats, Inc.

Please find attached U.S. Department of Energy, Rocky Flats Office (DOE/RFO) comments on the Draft Phase I Data Summary, Industrial Area Environmental Evaluation dated October, 1993. These comments address both quality assurance and ecological issues. The nonconcurrence issues raised in our quality assurance review are of particular importance. These issues include the use of unapproved Standard Operating Procedures (or not following approved Standard Operating Procedures), the use of an unapproved Field Sampling Plan, performing field work outside of the time window specified in the Field Sampling Plan, and improperly corrected field forms.

These comments were faxed to your staff for review on December 22, 1993. In addition, a meeting was held between DOE/RFO and EG&G to discuss the enclosed comments on January 6, 1994.

We request that EG&G review and provide DOE/RFO with a written response to the attached comments by February 1, 1994. This response should include a corrective action plan for the noncompliances listed in the quality assurance comments. In addition, we request that EG&G's quality assurance organization review the attached comments. Their written response should be included with the February 1, 1994, submittal to DOE/RFO. In particular, we request that your quality assurance organization determine whether or not the Phase I data have sufficient assurance to be defensible in a court of law. This determination may require the involvement of EG&G attorneys.

If the determination is made that all, or a portion, of the Phase I data are not defensible, we request that EG&G provide DOE/RFO with a detailed proposal to rectify the situation. This proposal should be in writing and submitted to DOE/RFO by February 15, 1993.

<i>Stiger</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Peterman</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>B</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>nesta</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Hayes</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Stall</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Glover</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

CORRES CONTROL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PATS/T130G	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ADMN RECORD/080	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Reviewed for Addressee  
Corres. Control RFP

1-13-94 *CW*  
DATE BY

Ref Ltr. #

DOE ORDER # 5400.1



ADMIN RECORD

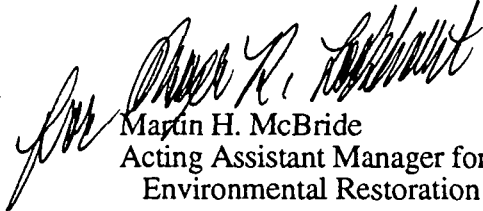
A-0008-000318

JAN 12 1994

S. Stiger  
ER:BKT:00626

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Questions or concerns regarding this memoranda should be addressed to Bruce K. Thatcher at extension 3532 or Bob Birk at extension 5921 of my staff.



Martin H. McBride  
Acting Assistant Manager for  
Environmental Restoration

Attachments

cc w/ Attachments:

R. Schassburger, AMER, RFO  
B. Birk, ER, RFO  
B. Thatcher, ER, RFO  
M. Roy, OCC, RFO  
A. Anders, ER, Aguirre  
D. George, ER, BOR  
B. Peterman, EG&G  
S. Nesta, EG&G  
C. Hayes, EG&G

U.S. DEPARTMENT OF ENERGY  
ROCKY FLATS OFFICE

# RF REVIEW COMMENT RECORD

Page 1 of 3

2. Document Reviewed: (Title, Number, Revision and Date)

Phase I Data Summary  
Industrial Area  
Environmental Evaluation (DRAFT)  
October, 1993 - Subcontract to EG&G - RUST Inc.

3. Reviewer:

Signature and Date: [Signature] 12/21/93

Organization: D. George DOE-ERD (BOR)

Location and Phone No. Bld T117 x5669

4. Agreement with dispositions:

Date

Reviewer

Document Preparer

5. Comment No.	6. Comment Type	7. Comments (include suggested changes)	8. Disposition
1	NON-C	Page 1-1 - The referenced IAEE FSP is dated October 15, 1993. Some of the data presented in the report was collected on October 13, 1993. This results in a nonconformance per Section 15, QAPjP. It also appears that the work was done to a draft FSP, which was not approved for use by DOE, EPA, or CDH. This presents a second nonconformance per Section 15, QAPjP (working to an unapproved plan).	
2	NON-C	Page 1-1 - The referenced SOP manuals appear in error. The dates shown are 1992a and 1992b. These procedures should have been dated 5/91. It appears that the contractor worked to procedures that were not adopted. There also appears to be a problem with document distribution since 1992a and 1992b were never issued for general use. (nonconformance per Section 6, QAPjP, document control)	
3	S	Page 1-1 - It should be noted that the bird section is included under a separate cover.	
4	E	Page 1-1 - Specific procedures should be highlighted. It is unknown what procedures were actually used. No procedures in 1992b appear to be used.	
5	S	Page 1-1 - What work plan is this work being accomplished under ?	
6	NON-C	Page 2-1 - 3rd Para. - SOP EE-11 (1992a) was renamed 5.11. The correct procedure should be dated 5/91. (nonconformance - Section 6, QAPjP)	
7	S	Page 2-3 - 3rd Para. - " Mowed at least annually". How can an assessor make this call without any facts? Probable should delete.	
8	S	Page 3-2 - 1st Line - Reference procedure 5.10 rather than Releve. The page in which the method is discribed in section 6.3 of the procedure.	

Comment Type:

E—Essential comment (agreement must be documented for other than verbatim incorporation) S—Suggested comment NON-C—Nonconcurrence, based upon the following comment

U.S. DEPARTMENT OF ENERGY  
ROCKY FLATS OFFICE

**RF REVIEW COMMENT RECORD**

Page 2 of 3

2. Document Reviewed: (Title, Number, Revision and Date)

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Industrial Area  
Environmental Evaluation (DRAFT)  
October, 1993 - Subcontract to EG&G - RUST Inc.

3. Reviewer:

Signature and Date: [Signature] 12/21/93

Organization: D. George DOE-ERD (BOR)

Location and Phone No. Bld T117 x5669

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Date

Reviewer

Document Preparer

5. Comment No.	6. Comment Type	7. Comments (include suggested changes)	8. Disposition
9	NON-C	Page 4-1 - Trapping was conducted over 3 nights. -- Procedure 5.6, section 6.2.1 indicates that trapping should be conducted over 4 nights. The procedure also indicates that trapping should be done in the spring and early fall. No spring data was collected. (Nonconformance - Section 3.0, QAPjP)	
10	S	Page 4-1 - SOP EE.6 should be termed 5.6. It is clear how this could be confusing since in the SOP Table of Contents, the procedure is termed EE.06.	
11	S	Page 4-2 - How do we know whether the animals were trapped more than once. Were they marked per the procedure? Data sheets do not indicate recapture.	
12	E	Page 4-2 - Section 4.2 - Table 4.2 shows the Deer Mouse to reproductive. Change the text to reflect this.	
13	NON-C	Page 4-2 - Section 4.3 - Table 4.3 shows 3 male WFD mice. This change should be made. No male WH mice were noted. (Table 4.3 shows 1 male WH Mouse. The field data sheet shows none.). (Nonconformance - Section 3.0, QAPjP - data will be independently validated and reviewed for anomalous values.)	
14	NON-C	Page 4-3 - 1st paragraph - the number of mice appear in error per table 4.3. (Nonconformance - Section 3.0, QAPjP - see above comment.)	
15	S	Page 4-3 - Section 4.4, 3rd line - "The trail was probably in use by feral cats and cottontail rabbits." What was the basis for this comment? Tracks, hair, feces?	
16	NON-C	Tables 4.1, 4.2, 4.3 and 4.4 - The values are inconsistent between columns. Example: WFD mouse -Table 4.1, Oct. 14, 3 males caught but 8 were juvenile. 43 errors were noticed in the tables, either by observation or comparison with the raw data sheets. (Severe Nonconformance- Section 3.0, QAPjP. See comment #13.)	

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U.S. DEPARTMENT OF ENERGY  
ROCKY FLATS OFFICE

**RF REVIEW COMMENT RECORD**

Page 3 of 3

<p>2. Document Reviewed: (Title, Number, Revision and Date)</p> <p>Phase I Data Summary Industrial Area Environmental Evaluation (DRAFT) October, 1993 - Subcontract to EG&amp;G - RUST Inc.</p>	<p>3. Reviewer: Signature and Date: <u>[Signature] 12/21/93</u> Organization: <u>D. George DOE-ERD (BOR)</u> Location and Phone No. <u>Bld T117 x 5669</u></p>	<p>4. Agreement with dispositions:</p> <p>Date _____ Reviewer _____ Document Preparer _____</p>
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5. Comment No.	6. Comment Type	7. <u>Comments</u> (include suggested changes)	8. <u>Disposition</u>
17	NON-C	Appendix A, Survey Data forms are not numbered (14 pages). Nonconformance - Section 17.0, QAPjP under completeness, and EMD Admin Procedure #17.01, Appendix 2.	
18	NON-C	Form 5.10 - 14 pages - Appendix A - Nonconformance - Section 17.0, QAPjP, Record Quality; "QA records must be legible, identifiable, complete, authenticated ..." Most of the forms are not totally legible, with data recorded in the margins, the appropriate cover class codes were not used, the species codes were not reported, there are crossouts, data is unreadable, it appears that some data was taken in the field and named later, crossouts are not initialed and dated, some fields are not filled in with values, notes were made on the forms instead of in the field notebooks. Without the appropriate coding, the data cannot be entered into the RFEDS data base. (Over 200 occurrences.)	
19	NON-C	Appendix B - Form EE6.A appears out of date. The correct form is 5.6A. Forms are similar, but slightly different. It appears that EE6.A was replaced by 5.6A. Nonconformance with use of controlled documents (QAPjP, Section 6.0). Also same comments as comment #17, nonconformance with Section 17.0, QAPjP. "Corrections shall be made by scribing a single black line through the incorrect information, and entering the correct information in close proximity to the line out. Corrections shall include data and initials." (Over 52 occurrences.)	
20	NON-C	Appendix B - Form EE6.A - Dates have been changed. One form dated as October 14th is signed on October 13th. In addition, form 5.0E was not used at all.	
21	NON-C	The overall quality of this document is poor, and is not complete nor defensible. Acceptance of this document by the M&O Contractor represents a nonconformance under Section 7.0 of the QAPjP. Acceptance criteria of items and services include technical verification of data produced and receipt inspection through peer review. It does not appear that either was accomplished.	

Comment Type:

E—Essential comment (agreement must be documented for other than verbatim incorporation) S—Suggested comment NON-C—Nonconformance, based upon the following comment

## MEMORANDUM

**TO:** B. K. Thatcher, DOE/ERD  
**FROM:** D. A. Anders, Aguirre Engineering <sup>AA</sup>  
**DATE:** 17 December 1993  
**SUBJECT:** Response to review of Phase I Data Summary Industrial Area  
Environmental Evaluation. Rust Environmental DRAFT. October 1993.

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Per your request, I have reviewed both the Phase I Data Summary Industrial Area Environmental Evaluation (DRAFT) and Technical Memorandum Operable Unit 9 Phase I RFI/RI Work Plan. I have the following comments / concerns:

1. Although I realize the time frame for completion and release of this Draft of the Phase I Data Summary for the Industrial Area (IA) Environmental Evaluation (EE) was very short (approximately two weeks), it is immediately apparent that there are a large number of technical editing errors that need to be corrected. I have marked my copy of this document to indicate the changes that need to be made, a copy of which is attached. This type of tech editing should have been accomplished by EG&G prior to transmittal of the document to DOE/ERD.
2. Since this was a draft copy, all the pages should have been overprinted with "DRAFT", or have "Draft" stamped on some or all of the pages.
3. Of more concern are what are, to me, major problems with the raw data input. Specifically, I am concerned with the following:
  - Botanical survey sheets. For the most part these are well done, and the only concerns are: (1) there were some unacceptable multiple strikeouts and scribbled deletions; (2) the key for % cover was not followed, and the "+, -, x, and o" system used was not explained, neither in the text nor in the raw data footnotes; (3) some of the cover class columns were vacant; (4) the sheets were not signed, and only the observers' initials were indicated; and (5) second sheets should have been used instead of adding lines for species to the first sheet, such as for the 10/14 and 10/15 dates. Field notes are acceptable in the margins, but not species lists; (6) one page was dated 8/14/93 instead of 10/14/93; (7) field notebook number not annotated on two pages.
  - Mammalian survey sheets. These data sheets are possibly both from a scientific and QA standpoint completely unacceptable, and the study may have to be repeated.
  - Proper QA procedures indicate that when errors are to be corrected, a single line is scribed through the erroneous data, which is then initialed and dated, and the correct information noted very nearby. Strikeovers, such as the dates on all of the mammal and two of the botanical survey sheets, are not acceptable.
  - At a minimum, these sheets need to be reconstructed correctly, if this will be acceptable to the QA people. If this is not acceptable, the study will have to be repeated. I have discussed this at length with Dave George, DOE/ERD's QA person.

- No Field Notebook pages are recorded on any of the fieldnote forms in the Appendices. EE.06 Section 7 of the SOP specifically requires the use and recording of field notes in the Field Notebook.

4. Specific comments on the general content of the document include the request that the Table of Contents (and, therefore, the text) should be expanded to include the minimum information outlined by RAGS II<sup>1</sup>, insofar as required by the Work Plan. The Work Plan (Tech Memo for OU9<sup>2</sup>) three components (i.e., [1] survey for migratory bird foraging, breeding, and nesting habitat; [2] survey for the presence of Species of Concern (SOC) and/or their critical habitat; and [3] ecotoxicological investigation for the potential for biotic dispersal of contaminants from OU9 into adjacent watersheds, etc.) will be accomplished. When the avian data has been included, this document will minimally meet the first two. Part (3) will be accomplished during Phase II.

Suggested outline, per RAGS II and the Work Plan:

#### Executive Summary

#### 1.0 Introduction

##### 1.1 Objectives

##### 1.2 Scope

#### 2.0 Identification of Habitat Types

##### 2.1 Vegetation Survey

##### 2.1.1 East Drainage Study Area

##### 2.2.2 North Pond and Seep Study Area

##### 2.2.3 Northwest Drainage Study Area

##### 2.2.4 West Railroad Study Area

##### 2.2.5 West Area Study Area

##### 2.2 Small Mammal Survey

##### 2.2.1 - 2.2.5 (as for Vegetation, above)

##### 2.3 Bird Survey

##### 2.3.1 - 2.3.5 (as above)

#### 3.0 References

#### List of Tables

#### List of Figures

#### Appendices

##### Appendix A Habitat and Vegetation Survey

##### Appendix B Small Mammal Survey

4. Even though Part 3 was to be completed during Phase II, the results of Phase I were intended to initiate development for a Biota Transport Model (BTM), if warranted by the results of Phase I. A BTM is a prediction of contaminant loads dispersing outward in biotic vectors from the IA, and is intended to complement data on abiotic contaminant transport (Section 9.5.1.2, Tech Memo). This needs to be addressed in the EE. Objectives of Phase II field sampling program as outlined in the Tech Memo, Section 9.5.2. This information will be utilized in developing the ecological risk assessment, remediation criteria, and operable unit coordination for the IA (Tech Memo, Section 9.5.4).
5. Section 9.4.4 (Tech Memo) indicates that all surveys would occur between the beginning of April and the end of September (1992) for OU9 (the SOP<sup>3</sup> indicates until the end of October, but this was amended by the Work Plan), and it is

assumed that this time frame would be the same for the other OUs. Given that the date has slipped from 1992 to 1993, it is unclear why the study was conducted in mid-October. Possibly this was the earliest it could be conducted due to contract constraints. The April - September window was selected to provide the height of the summer season to maximize mammalian capture and the occurrence of phytoflorescence.

6. The Tech Memo (Section 9) also specified that directed surveys for several threatened or endangered species (or suitable habitat for these species of concern) would be accomplished. These species include: Diluvium (or Ute) Lady's Tresses (*Spiranthes diluvialis*); forktip threeawn (*Aristida basiramea*), Colorado butterfly plant (*Gaura neomexicana* var. *coloradensis*); and Preble's jumping mouse (*Zapus h. preblei*). It is unclear whether this was to be accomplished under I or Phase II, but no mention of it is made in the IA EE.

Other Species of Concern (S)C potentially present at RFP but less likely to occur in the IA are the white-faced ibis (*Numenius americanus*); ferruginous hawk (*Buteo regalis*), Swainson's hawk (*B. swainsonii*), and swift fox (*Vulpes velox*). None of these species were noted on the species lists for the IA, so they were not found during the Phase I studies. A complete list of species of concern is given in Table 1 of the Tech Memo.

7. Table 3.1 (botanical data) should be revised to indicate both common and botanical names. Table 3.1 could be deleted, as the information would be indicated in the tables for individual study sites (see #8, below); however, the aggregated information is of interest and value.
8. Tables 3.2 through 3.6 should be developed to indicate botanical information for each individual study sites, as was done for the mammalian study.
9. Since the information on the bird survey is probably completed by this date, the avian data should be treated in a similar manner to that of the other studies.
10. Inconsistencies were noted between the information given in the raw data, the text, and the tables on the mammalian data which should be corrected. I have indicated the changes on the attached edited copy.
11. I disagree with the way the total numbers of animals are represented in Tables 4. When a date is given as a heading, the total number of animals captured on that date should be given, not the total number of animals for the entire study (see edited copy, attached).
12. All of the references cited in the Tech Memo<sup>2</sup> in Section 9.3 Resource and Habitat Description and Section 9.4 Habitat and Biota Surveys (RFI/RI Phase I) should have been integrated into the document. Methodologies for ecological surveys at RFP are specified in the EG&G SOP<sup>3</sup>.
13. As the EG&G SOP for Ecology specifies that a Master's Degree and two years of field experience are the minimum qualifications required of at least one of the team personnel conducting the surveys, a resume section should be included in the final document. Joe Marino (mammalian survey) has a dual Ph.D. On the botanical survey, I am assuming that "DAT" is Darcy A. Tiglas, M.S., and "SAB"

is Samuel A. Bamberg, Ph.D., both of whom certainly meet the requirements. I am curious about "Bruce J. Berrit" and "Neil S." (mammalian survey).

14. Figures 1 - 6B were developed by Rust, and should coincide very closely with the Rocky Flats Vegetation Map. The Tech Memo states that the Phase I data be used to validate or correct the Rocky Flats Vegetation Map (Section 9.4.4.1). In general, I concur with the information presented on the map figures, with the following exceptions:

- Figure 2 IAEE East Drainage
- Figure 4 IAEE Northwest Drainage
- Figure 6A IAEE West Area.

Each of these maps missed areas that have been designated as wetland in the EG&G Land Use Manual<sup>4</sup>. Section 9.3.4 of the Work Plan specifically states that "(t)hese may be evaluated by releve plots for collection of phytosociological data on density and species composition." I saw no mention of wetlands in either text or figures, and no revele plots of any data relating to wetlands.

## REFERENCES

- <sup>1</sup> EPA. Risk Assessment Guidance for Superfund Volume II: Environmental Evaluation Manual. Interim Final. EPA/540/1-89/001. March 1989.
- <sup>2</sup> DOE. Technical Memorandum Operable Unit 9 Phase I RFI/RI Work Plant. Section 9: Environmental Evaluation. Revision. March 1992.
- <sup>3</sup> EG&G. EG&G Environmental Management Department Standard Operating Procedures (SOP) Volume 5.0 Ecology.
- <sup>4</sup> EG&G Environmental Management. 1993. EG&G Rocky Flats Plant Land Use Manual: Technical Site Information for the RFP per DOE Order 4320. Manual No. 5-21500-GD-END-.01. October 6, 1993.

## CONCLUSIONS AND RECOMMENDATIONS

1. There are potentially serious problems with this document, and the study may have to be repeated, which, given the depauperate mammalian populations in the IA, could adversely impact these species within this area. The Work Plan<sup>2</sup> and SOP<sup>3</sup> indicate that sampling must occur in the spring (April - May) or early fall (September - October), and that live trapping occur over 4 trap nights. Only three trap-nights were used in the small mammal survey. If this survey must be repeated, recommend that it be completed in the spring timeframe.
2. It appears to me that EG&G did not review this document prior to its transmittal to DOE/ERD. It requires a very rigorous technical editing
3. I think DOE/ERD should request an informal meeting with EG&G and RUST to discuss these concerns.
4. The disputed map figures should be reevaluated and/or revised.
5. I recommend that this document not be accepted until resolution has been made on the QA and other questions.